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# 关于假茀蕨属和隐子蕨属的分类問題

# ON THE GENERA PHYMATOPSIS J. SM. AND CRYPSINUS PRESL

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在本学报前面連續发表的两篇文章里，作者較为广泛地討論了金星蕨科和蹄盖蕨科的一些属的分类問題。这些属的概念在美国 E. B. Copeland 的蕨属志（Genera Filicum, 1947)一书中多被混淆了。在本文里，作者将試图澄淸水龙骨科的假茀蕨属（*Phymatopsis* J. Sm.）和隐子蕨属（*Crypsinus* Presl）这两个属的分类問題。这两个属的分类問題同样也被这个学者混淆起来了。澄淸这个問題之所以重要首先在于这里所涉及的种类的絕大多数是产于我国及我国邻邦，其次在于中国植物志第六卷的編写要求确定这些种类在命名上的地位。

在 E. B. Copeland 著的蕨属志一书中，他錯誤地把茀蕨属（*Phymatodes* Presl）与星蕨属（*Microsorium* Link）混成一团，而这一混乱已在英国 Holttum 著的馬来亚蕨类植物志（Ferns of Malaya, 1954）一书中被澄淸了，其实这两个属的区别作者早在 1933 年的水龙骨科的专著中已充分地确立了(北平研究院植物研究所汇报二卷)。E. B. Copeland 在他的同一著作中，同样地混淆了假茀蕨属（*Phymatopsis* J. Sm.）与隐子蕨属（*Crypsinus* Presl）之間的区别，但对这一混乱 Holttum 在他的同一著作中却表示完全同意。实际上，这两位学者所造成的混乱是完全不能想象的，因为隐子蕨属的模式种与假茀蕨属的模式种早經这两个属的創立人，Presl 和 J. Smith 淸楚地分别指定了的，人們不应当不知道两属的区别的。而且 E. B. Copeland 在自己的著作中也把这两个属的模式种在一个图版上繪出来了（蕨属志，图版 8），如果人們只要一見这些图的話，誰都会注意到它們在形态上有如此的差别，以致几乎看不見在属的特性上有任何共同之处。E. B. Copeland 还給隐子蕨属提出一个属的描述，可是这个属的描述同他的許多其他蕨属的描述一样是极为含糊其詞的，并且也可以同样地应用到任何一个相近的蕨属，就是說，他对許多蕨属的概念很不具体，而是一般化的。正象作者早在 1933 年曾經指出那样，Holttum 在 1954 年馬来亚蕨类植物志一书中也同样地指出說，隐子蕨属不同于茀蕨属与星蕨属（*Microsorium* Link）之点在于前一属的根状茎上的鱗片不为粗篩孔状。关于这一点他还特别強調地說："这种鱗片可以用来区别叶边不具缺刻的那些隐子蕨属的种类；否則，叶边缺刻这个特征是識别隐子蕨属的种类的最方便的标志。"然而事实并不这样簡单。大家知道，在水龙骨科中，出現两类的鱗片，卽粗篩孔状的和不为粗篩孔状的。根据这个特征，如果願意的話，

人們可把整个水龙骨科分成两大羣或是两个亚科。由此可見，非粗篩孔状类型的鱗片并不是隐子蕨属所独有的特性，而至少是水龙骨科二十多个属的共性。至于說到叶边缺刻这一特性，这也不是隐子蕨属独有的，而也往往出現于水龙骨科的其他近亲属，如槲蕨属（*Drynaria* J. Sm.）就是如此。不但如此，甚至在 E. B. Copeland 的所謂"隐子蕨属"中，几乎有三分之一的种类的叶边是絕对不具缺刻的，并且有时还有过渡类型的出現。由此可見，如果誠如 E. B. Copeland 和 Holttum 二人所說的那样，即"隐子蕨属"的区别是根据以上两个特征来規定的話，則将是一个完全的虛假。

作为一个自然的属，隐子蕨属（*Crypsinus* Presl）代表着仅产于馬来羣島的由大約六个种組成的一小羣植物。这些植物的形体小而簡化，通常具有二型或近二型而为厚革質的光亮叶片，沒有明显的側脉；孢子囊羣二行生于狹縮成綫形的能育叶片或者能育的狹縮上部，深陷于凹穴中；叶脉为水龙骨型。与此相反，假茀蕨属（*Phymatopsis* J. Sm.）是一个相当大的属，約有六十余种，其中絕大多数产于亚洲大陆。这个属的特征是：通常形体远較高大，叶一型，单一、三裂、掌裂、羽裂或羽状，通常为紙質，下面灰白色或灰綠色，主脉两側有明显的側脉，孢子囊羣在主脉两側也各成一行，但为表面生或略凹入；叶脉为槲蕨型。再本属植物的一些种不为附生，而为土生。从上述的特征看，假茀蕨属在形态上与眞正隐子蕨属的区别，正如它与水龙骨科的其他相近属的区别一样，是极为明显的。当 Presl 氏創立隐子蕨属时，他把 *Polypodium laciniatum* Bl. 归入他同时創立的茀蕨属（*Phymatodes*），而并未归入他的隐子蕨属，这就足以証明在他的心目中他訊識到这两个属是有区别的。

至于說到 E. B. Copeland 的蕨属志中图版八的第三个图，*Crypsinus oodes* (Kze.) Cop. 这种植物，則一目了然地可以看出它旣不同于眞正隐子蕨属，也不同于假茀蕨属。实际上，这个种代表着仅产于馬来羣島的另一小羣蕨类，例如 *Polypodium enerve* Cav., *Polypodium platyphyllum* Sw., *Polypodium triquetrum* Bl. 等等。它們組成另一个自然羣。它們的叶片单一，披針形或卵形、坚革質、光滑、側脉明显，每对側脉之間有两行孢子囊羣。它們不是隐子蕨属的成員，而是代表着一个分明不同的属，极近于 *Selliguea* Bory。在本文中作者不打算討論这羣植物。但仅根据上述情况，已足以看出，E. B. Copeland 的所謂"隐子蕨属"正象他的 *Athyrium, Lastrea* 属，等等是一个許多自然属的混合体。

从細胞学的角度看，英国 Manton 和 Sledge（錫兰蕨类植物区系的細胞学与分类学的观察一文，176 頁，1954 年）也指出了 E. B. Copeland 的隐子蕨属是个多元的属，并且建議需要訂正。細胞学的研究証实了 *Phymatodes* Presl 和 *Phymatopsis* J. Sm. 两属的染色体 $n=35$，而 *Crypsinus wrayi* (Bak.) Cop. 和其他近亲种的染色体 $n=33$。这进一步証明了 *Phymatopsis* J. Sm. 与 *Phymatodes* Presl 的亲緣关系是极为密切的，但与 *Crypsinus* Presl 却极为疏远。

形态学和細胞学旣然都肯定地証明了 E. B. Copeland 的所謂"隐子蕨属"是个复合的属，則他的这个属必須受到重新訂正是毫无問題的。順便，还可以指出 *Crypsinus enerve* (Cav.) Cop. 和其他一些近亲种的染色体也为 $n=33$，但正如上面已經提到的那样，它們在形态上的分化和差别已經如此的显著，以致把它們归并于隐子蕨属也是极不恰当的，应另成立一个属。

三十年前，作者处理这羣植物如同 Presl 氏一样，曾把假瘤蕨属 *Phymatopsis* J. Sm. 作为瘤蕨属 *Phymatodes* Presl 的一个組看待，同时也指出了二者的明显区别。現在作者同意日本尹藤洋（H. Ito）的观点，把假瘤蕨属恢复到属級地位。下面所列的六十个种都为这个属的組成种，其中有五十六种分布于亚洲大陆，只有少数的种向南达馬来羣島。本属的地理分布中心为中国西南部及喜馬拉雅山地。

In the two previous papers I have dealt rather extensively with some of the thelypteroid and athyrid fern genera confused by Copeland in his Genera Filicum. In the present paper I shall confine myself to a revision of two polypodioid genera, *Crypsinus* Presl and *Phymatopsis* J. Sm. also illtreated by the same author. An elucidation of this problem is important in that the majority of the species under review are from China and her neighbouring countries and that the preparation of the manuscript for the Flora Reipublicae Popularis Sinicae now in progress requires a clearing of the problem in nomenclature.

In his Genera Filicum, Copeland confused *Phymatodes* Presl with *Microsorium* Link, but this confusion has already been cleared up by Holttum in the Ferns of Malaya, although the distinctions between the two genera had been already thoroughly discussed long ago in my monograph (Contr. Inst. Bot. Nat. Acad. Peiping II, 55. 1933). Copeland likewise confused *Phymatopsis* J. Sm. with *Crypsinus* Presl, and this confusion has, unfortunately, been approved by Holttum in the same work. The confusion wrought both by Copeland and Holttum is altogether unbelievable, for the type species both of *Crypsinus* Presl and *Phymatopsis* J. Sm. were explicitly fixed by the two authors, and one should make no mistake about their differences. Moreover, the two type species were figured by Copeland himself (fig. 1—2, plate VIII in his Genera Filicum), but, if one merely looks at these figures, one will never fail to see that they are so different morphologically that there is practically nothing in common generically. The generic discription of "*Crypsinus*" given by Copeland appears to be as vague as those of many other genera in his book and may be applicable to any other related genera as well. Holttum (l.c.) pointed out, as I had already done so long ago under *Phymatodes* sect. *Phymatopsis* in my monograph (l.c.) that "*Crypsinus*" is distinct from *Phymatodes* Presl and from *Microsorium* Link in its non-clathrate scales, and he further emphasized this point by saying, "these scales serve to distinguish those species (of "*Crypsinus*") which lack the notches in the edges of the frond, the notches are otherwise the most convenient distinguishing character of the genus." However, it is well known that within the family *Polypodiaceae* (sensu stricto) there exist two main types of scales, i.e., the clathrate and the non-clathrate, by which the family can, if one likes to do so, be divided into two large groups or subfamilies, and it is, therefore, clearly evident that the non-clathrate scales is *not* a character peculiar to "*Crypsinus*" alone, but a character in common with at least twenty different genera in the family. As to the notches in the leaf-margin,

this is again a character not infrequently present in the other related genera, such as *Drynaria* J. Sm., for example, and even in the genus "*Crypsinus*" of Copeland there are, as shown below, nearly one-third of the known species absolutely without notches in the leaf-margin. It proves, therefore, to be a complete fallacy, if the distinctions of "*Crypsinus*" are based upon these characters, as both Copeland and Holttum so thought.

As a natural genus, *Crypsinus* Presl represents a small group of ferns with about half a dozen of species in Malay Arch. They are all small and much simplified plants often with dimorphic or subdimorphic, rigidly coriaceous, glossy leaves without distinct lateral veins, with a single row of immersed sori on each side of the midrib of usually much contracted linear fertile leaves or on the contracted upper part of leaves, and the venation is of goniophlebioid type. On the other hand, *Phymatopsis* J. Sm. is a genus of considerable size, with over 60 species, the majority of which are from the mainland of Asia. The genus is characterized by generally much larger, uniform, simple, trifid, palmatifid, pinnatifid or pinnate leaves of usually chartaceous texture, glaucous or bluish underneath, by the presence of distinct lateral veins, by also single-rowed but usually superficial or slightly immersed large sori and by the drynarioid type of venation. Quite a number of species of *Phymatopsis* are terrestrial in habit. From the above brief diagnoses, it is, therefore very clear that, morphologically, *Phymatopsis* J. Sm. is just as distinct from *Crypsinus* Presl (not Copeland) as from the other related genera of the Polypodiaceous ferns. While setting up the genus *Crypsinus,* Presl had clearly in mind the distinctions of the genus from his *Phymatodes* to which he also referred *Polypodium laciniatum* Bl. and its allies. This, even as we see it today, is a quite reasonable treatment, because *Polypodium laciniatum* Bl. or *Phymatodes laciniata* Presl has many characters in common with *Phymatodes scolopendria* (Burm.) Ching.

As to the third species, *Crypsinus oodes* (Kze.) Cop., also figured by Copeland in plate VIII, it is very different from both *Crypsinus* Presl and *Phymatopsis* J. Sm. In fact, it represents another small group of ferns in Malay Arch., such as, *Polypodium platyphyllum* Sw., *P. enerve* Cav., *P. triquetrum* Bl., *Phymatodes subfaciata* Holttum and a few others, forming a very natural group by themselves. They all have simple, lanceolate or ovate leaves also of rigidly coriaceous glossy texture, with distinct lateral veins and two rows of sori between each pair of lateral veins. They do not belong to *Crypsinus* Presl, but represent a distinct genus closely related to *Selliguea* Bory. I do not intend to discuss them in the present paper. From the above, it is enough to show that *Crypsinus* of Copeland, like his *Athyrium, Lastrea,* etc. is again a heterogeneous admixture of many natural genera according to the conception of modern fern classification.

In the light of cytology, Manton and Sledge (Observations on the cytology and taxonomy of the pteridophyte flora of Ceylon, p. 176, 1954) also pointed out that

*Crypsinus* of Copeland is a polyphyletic genus and recommended a generic revision. It has been shown rather conclusively that both *Phymatodes* (including the type of the genus, *Ph. scolopendria* Ching) and *Phymatopsis* (including *Phy. taeniata* [Sw.] Ching, type of the genus and *Phy. hastata* [Thunb.] I. Ito) have a chromosome number n=36, while *Crypsinus wrayi* (Bak.) Cop. and its allies have a chromosome number n=33. This lends additional evidence that the affinity of *Phymatopsis* J. Sm. with *Phymatodes* Presl is very close, but very remote from *Crypsinus* Presl.

Thus both morphology and cytology conclusively prove that *Crypsinus* of Copeland is a composite genus, and that a generic revision is necessary. In passing, it may be pointed out that *Crypsinus enerve* (Cav.) Cop. and its allies also have a chromosome number n=33, but, as hinted above, its marked morphological distinctness is against combining it and the other related species mentioned above with *Crypsinus* Presl.

Thirty years ago, I treated *Phymatopsis* J. Sm. as a section of *Phymatodes* (l.c.) with its distinctions from *Phymatodes* Presl explicitly noted. Now I agree with H. Ito on restoring it as a valid genus, under which J. Smith has already enumerated a number of well-known Himalayan and Chinese species, including *Phy. ebenipes* (Hook.) J. Sm., *Phy. griffithiana* (Hook.) J. Sm. and *Phy. rhynchophylla* (Hook.) J. Sm. The following 60 species known to me all belong to *Phymatopsis,* of which 56 or so are from the mainland of Asia, particularly from China and adjacent countries, with only a few species extending southwardly to the Malay regions. Geographically, the genus *Phymatopsis* J. Sm. has its center of distribution in South-west China and the Himalayas.

**1. 单叶系**——Series 1. **Hastatae** Ching, ser. nov.

叶为单叶或間为 3—5 裂并具綫状披針形的狹裂片。

Lamina frondis simplex, interdum 3—5-fida, segmentis linearilanceolatis.

Typus seriei: **Polypodium hastatum** Thunb.

1. **全緣亚系**——Subseries 1. **Griffithianae** Ching, subser, nov.

叶片或裂片边緣为全緣。

Lamina frondis margine integerrima

Typus subseriei: **Polypodium griffithiana** Hook.

**Phymatopsis griffithiana** (Hook.) J. Sm. Hist. Fil. (1875) 104. **大果假瘤蕨**

Basionym: *Polypodium griffithianum* Hook. Ic. Pl. (1854) t. 951.

Synonym: *Phymatodes griffithiana* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 71.

产云南西部、西藏东南部、四川、貴州；也分布于印度北部、錫金、緬甸、越南。

**Phymatopsis majoensis** (C. Chr.) Ching, comb. nov. **寬底假瘤蕨**

Basionym: *Polypodium majoense* C. Chr. in Léveillé, Cat. Pl. Yun-nan (1916) 108.

Synonym: *Phymatodes griffithiana* var. *majoensis* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 72.

产貴州、四川、云南。

本种形体极似前种，但叶片基部为闊圓形，不为楔形，下面呈較显著的灰白色，孢子囊羣不紧靠主脉，而以一定的距离与主脉分开。

Differs from *Ph. griffithiana* (Hook.) J. Sm. in lamina having broadly rounded or round-truncate base and more glaucous under surface, and the sori usually some distance away from the costa.

**Phymatopsis obtusa** Ching, sp. nov. **圓頂假茀蕨**

Habitu *Ph. griffithianae* (Hook.) J. Sm. proxime affinis, a qua differt statu minore, lamina frondis 5—10 cm longa vel rarissime longiore, 2—2.5 cm lata, oblonga vel oblongo-lanceolata, apice rotundata, basi anguste breveque cuneata, subtus haud glaucescente sed pallide virescente, venis lateralibus crassis, oblique ascendentibus.

特产海南島(五指山)。

本种形体略似大果假茀蕨，但远較小，叶片先端鈍圓，下面淡綠色，側脉粗而斜向上，故易区别。

**Hainan Island:** Ng-chi Ling, Fan Yah, L. C. Tso et N. K. Chun (左景烈，陈念劬) *44211* (type), on tree roots, alt. ca. 1400 m, 29, IX, 1932; Po-ting, F. C. How (侯寬昭) *73641*, on tree trunk in forest, 3, IX, 1932; Pesah Hsien, Five Finger Mt., Hainan Bot. Exped. *592*, under dense forest, alt. 1600—1700 m, 8, XI, 1954.

**Phymatopsis chrysotricha** (C. Chr.) Ching, comb. nov. **白茎假茀蕨**

Basionym: *Polypodium chrysotrichum* C. Chr. Contr. U.S. Nat. Herb. XXVI (1931) 320, pl. 23.

Synonyms: *Phymatodes chrysotricha* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 69.

*Crypsinus chrysotrichus* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

特产云南西北部瀾滄江与怒江分水岭。常見。

**Phymatopsis hainanensis** (Ching) Ching, comb. nov. **海南假茀蕨**

Basionym: *Phymatodes hainanensis* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 68, pl. 4.

Synonyms: *Polypodium echinosporum* C. Chr. Ind. Fil. Suppl. III (1934) 148, based on *Phymatodes hainanensis* Ching.

*Crypsinus hainanensis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

特产海南島。

**Phymatopsis cunea** Ching, sp. nov. **楔形假茀蕨**

Species habitu et magnitudine *Ph. hainanensi* (Ching) Ching valde similis, a qua differt lamina frondis textura duriore, venis lateralibus minus perspicuis et sporis facie laevibus.

**Yunnan austr.:** Yunnan Complex Expedition *7998* (type).

特产云南南部。

本新种形体极似海南假茀蕨，唯叶質較厚，側脉較不明显，孢子表面平滑，故易区别。

**Phymatopsis longisquamata** (Tagawa) Ching, comb. nov. **长鳞假蒹蕨**

Basionym: *Phymatodes longisquamata* Tagawa, Acta Phytotax. et Geobot. III (1934) 96.

Synonyms: *Crypsinus longisquamatus* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193; ibidem, XV (1954) 142.

*Phymatopsis hastata* var. *longisquamata* H. Ito, Journ. Bot. XI (1935) 99.

特产琉球羣島。

**Phymatopsis taiwanensis** (Tagawa) Ching, comb. nov. **台湾假蒹蕨**

Basionym: *Phymatodes taiwanensis* Tagawa, Acta Phytotax. et Geobot. XI (1942) 310.

Synonym: *Crypsinus taiwanensis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 194; ibidem, XV (1954) 142.

特产我国台湾(台北、台南)。

**Phymatopsis pellucidifolia** (Hayata) H. Ito, Journ. Jap. Bot. XI (1935) 99. **阿里假蒹蕨**

Basionym: *Polypodium pellucidifolium* Hayata, Ic. Pl. Form. IV (1914) 250, f. 174.

特产台湾(阿里山)。

A very distinct species differing from *Ph. engleri* (Luerss.) H. Ito in the subcoriaceous leaves with entire margine and smooth spores.

2. **缺刻亚系**——Subseries 2. **Hastatae** Ching, subser. nov.

叶片或裂片边緣每对側脉之間通常有缺刻一个。

Lamina frondis margine inter venas laterales leviter et remote incisa.

Typus subseriei: **Polypodium hastatum** Thunb.

**Phymatopsis rhynchophylla** (Hook.) J. Sm. Hist. Fil. (1875) 104. **喙叶假蒹蕨**

Basionym: *Polypodium rhynchophyllum* Hook. Ic. Pl. (1854) t. 954.

Synonyms: *Phymatodes rhynchophylla* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 169.

*Phymatodes okamotoi* Tagawa, Acta Phytotax. et Geobot. VII (1938) 189.

*Crypsinus okamotoi* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 194.

广布于我国云南、四川(峨眉山)、湖北、广西、貴州、广东、福建、台湾；也产于緬甸(北部)、印度(北部)、錫金、印度支那、菲律宾，叶形变异很大，近二型。

A polymorphic fern in the shape of leaves. *Phymatodes okamotoi* Tagawa from Taiwan scarcely differs from the present species.

**Phymatopsis engleri** (Luerss.) H. Ito, Journ. Jap. Bot. XI (1935) 98. **恩氏假蒹蕨**

Basionym: *Polypodium engleri* Luerss. in Engl. Bot. Jahrb. IV (1883) 361.

Synonyms: *Phymatodes engleri* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 72.

*Crypsinus engleri* Tagawa, Acta Phytotax. et Geobot. XV (1954) 142.

产日本、朝鲜、我国台湾及福建。

var. **coriacea** (Tagawa) Ching, comb. nov. **革叶变种**

Basionym: *Phymatodes engleri* var. *coriacea* Tagawa, Acta Phytotax. et Geobot. XI (1942) 309.

Synonym: *Crypsinus engleri* var. *coriaceus* Tagawa, Acta Phytotax. et Geobot. XV (1954) 142.

特产台湾。

**Phymatopsis yakushimensis** (Makino) H. Ito, Journ. Jap. Bot. XI (1935) 100. **屋久假茀蕨**

Basionym: *Polypodium engleri* var. *yakushimense* Makino, Bot. Mag. Tokyo XXIII (1909) 248.

Synonyms: *Polypodium yakushimense* Makino in Makino et Nemoto, Cat. Jap. Pl. Herb. Tokyo Imp. Mus. (1914) 433.

*Phymatodes yakushimensis* Tagawa, Acta Phytotax. et Geobot. VII (1938) 189.

*Crypsinus yakushimensis* Tagawa, Acta Phytotax. et Geobot. XV (1954) 142.

产日本南部(屋久島)、琉球及我国台湾。

**Phymatopsis fukienensis** Ching, sp. nov. **福建假茀蕨**

Species habitu valde affinis *Ph. yakushimensi* (Makino) H. Ito, a qua differt praecipue stipite laminae breviore, haud aequilongo, lamina longiore, 9—13 cm. longa, 1.5—1.8 cm. lata, margine nec repando-undulata sed plana, sporis facie sparse et brevissime echinatis vel interdum fere laevibus.

**Fukien bor.:** Wu-yi Shan, P. S. Chiu (裘佩熹) *1416* (type), *1417*, on wet rocks, 27, VII, 1958; ibidem, P. S. Chiu *1824*, *1580*, *1581*, *1582*, *1583*, *1070*, on wet rock; ibidem, M. K. Hwang (黄鳴金) *3082*, on shaded rocks,, 6 IV, 1955; L. K. Ling (林来官) *124*; J. Ho (何景) *92828*. **Kwangsi bor.-orient.:** Lung-sun Hsien, Kwang-fu, Forest Survey Party *529*, on rocks by stream, alt. 850m, 11, VI, 1955; Shing-an Hsien, Kwangsi Bot. Exped. *431*, on rock surface, VI, 1953. **Kweichow:** Van-Tsing Shan, Ying-kiang Hsien, Kweichow Bot. Exped. *993*, on rocks by stream side, 6, VI, 1959.

产福建北部(武夷山区)、广西东北部、貴州东北部(梵淨山)。

本新种形体极似屋久假茀蕨,主要不同点在于叶柄比叶片为短,叶片較长,叶边不呈波状起伏,孢子表面疏被短刺状突起或有时平滑,故易区别。

**Phymatopsis rotunda** Ching, sp. nov. **团基假茀蕨**

Ex affinitate *Ph. engleri* (Luerss.) H. Ito, a qua differt statu graciliore, lamina frondis breviore, 11—14 cm longa, medio paulo latiore, basi anguste rotunda, haud cuneata, soris medialibus inter marginem et costam sitis.

**Szechuan austr.-occid.:** Lu-shan Hsien, K. L. Cho (曲桂林) *4097 bis* (type). Omei Shan, C. Y. Chu et al. (朱兆仪等) *1214*, on rocks, 16, VI, 1956; ibidem, S. C. Chen (郑学經) *10007*, mountain top, alt. 3500 m.

产四川西南部(芦山县、峨眉山)。

本种形体略似恩氏假茀蕨,但較細弱,叶片較短,长 11—14 厘米,中部略較寬,基部狹圓形,孢子囊羣生于主脉与叶边中間。

**Phymatopsis philippinensis** Ching, sp. nov. **吕宋假茀蕨**

Ex affinitate *Ph. yakushimensis* (Makino) H. Ito, a qua differt statu multo minore, lamina frondis 3—5.5 cm longa, oblongo-lanceolata, basi breve cuneata, apice subacuminata vel saepe acuta, margine paulo incisa vel fere integerrima, soris majoribus, approximatis.

**Philippine Islands:** Northern Luzon, Mount Santo Tomas. R. S. Williams *1577* (type).

特产菲律宾(吕宋島)。

本新种形体略似屋久假茀蕨,但远較小,叶片长仅 3—5.5 厘米,长圓披針形,基部短楔形,先端近急尖,叶边略有缺刻或几为全緣,孢子囊羣大,彼此接近。

**Phymatopsis omeiensis** Ching, sp. nov. **峨眉假茀蕨**

Species habitu et textura frondis *Ph. griffithianae* (Hook.) J. Sm. affinis, a qua differt statu multo minore, planta 8—13 cm alta, lamina 6—8 cm longa, 1—1.5 cm lata, late lanceolata, apice acuta, basi obtusa, margine e basi regulariter incisa, soris inframedialibus, maturitate costae proximis, paleis rhizomatis brevioribus.

**Szechuan:** Omei Shan, on the way to Pei-ying-sze, H. C. Chow (周鶴昌) *7935* (type), on shaded rocks, 29, VII, 1938.

特产四川峨眉山(白云寺附近)。

本新种形体略近大果假茀蕨,但远較小,植株高 8—13 厘米,叶片长 6—8 厘米,寬 1—1.5 厘米,先端急尖,基部圓形,叶边从基部向上有缺刻,孢子囊羣不紧靠主脉,根状茎上的鱗片較短。

**Phymatopsis simplicifolia** Ching, sp. nov. **披針假茀蕨**

Species arcte affinis *Ph. hastatae* (Thunb.) H. Ito (f. *simplici*), a qua differt habitu graciliore, lamina frondis anguste lanceolata, basin versus nec late rotunda sed cuneata, sporis facie densissime et longe echinatis.

**Szechuan orient.:** Chen-kou Hsien, L. K. Tai *107060* (type), on cliff, alt. 1500m, 3, IX, 1958.

特产四川东部(城口县)。

本新种极似金鸡脚假茀蕨单叶变种,但形体較瘦弱,叶片为狭披針形,基部不为闊圓形而为楔形,孢子表面有长而极密的刺状突起。

**Phymatopsis hunyaensis** Ching, sp. nov. **洪雅假茀蕨**

Ex affinitate *Ph. simplicifoliae* Ching, a qua differt lamina frondis basi obtusa nec angustata, sporis facie echinis paucis, crassioribus et fere triplo longioribus donatis.

**Szechuan austr.-occid.:** Hun-ya Hsien, W. P. Fang (方文培) *7950*, *8752*, *8766*, *8745* (type); ibidem, C. K. Sun (孙仲光) *4228*, alt. 1100 m, 3, VII, 1957; Yah-an Hsien, H. C. Chow (周鶴昌) *241*, alt. 850m, 20, VII, 1939; Ping-shan Hsien, T. T. Yü (俞德浚) *2953* (1934); Nanchuan, K. F. Li (李国风) *93020*。

产四川西南部(洪雅)。

本新种形体似披針假茀蕨,但叶片基部为圓形,不变狭,孢子表面有少数疏刺,刺較粗,长約达三倍。

**Phymatopsis tenuipes** Ching, sp. nov. **細柄假茀蕨**

Ex affinitate *Ph. hastatae* (Thunb.) H. Ito (f. *simplici*), a qua differt statu minore gracilioreque, stipite filiformi, 1—2 cm longo, lamina frondis 2—7 cm longa, 7 mm lata, basi apiceque obtusa, margine parallelis, textura tenuiore, subtus eximie glauca, supra

punctis calcareis conspicue ornata, sporis facie longe et dense echinatis.

**Kweichow:** Tsing-chen Hsien, Kweicow Bot. Exped. *1800*, *1801* (type), on cliff under open forest, alt. 1450m, 12, X, 1956; Pi-tsi Hsien, P. H. Yü (禹平华) *789*, on shaded rock surface under forest, alt. 1450m, 13, IX, 1957. **Szechuan:** Omei Shan, S. C. Chen (郑学經) *30047*, upon bark of trees, 5, VII, 1955.

产貴州西部、四川南部(峨眉山)。

本新种形体略似金鶏脚假茀蕨单叶变种，但远較細弱，叶柄絲状，长1—2厘米，叶片长2—7厘米，寬7毫米，基部和頂部鈍圓、两边平行、厚薄，下面亮灰白色，上面有石灰质的圓斑点，孢子表面有长而密的刺。

**Phymatopsis chenkouensis** Ching, sp. nov. **城口假茀蕨**

Species ex affinitate *Ph. tenuipedis* Ching, quacum lamina frondis dimensione congruens, sed ad apicem sensim angustatum subacuminata, basi rotundata, vix vel paulo latiore, sporis facie sublaevibus.

**Szechuan orient.:** Chenkou, T. L. Tai (戴天伦) *101201* (type), on rock surface, alt. 1500m, 11, VIII, 1958. **Shensi austr.:** Yang Hsien, T. N. Liou et P. C. Tsoong (刘愼諤、鍾补求) *3645*, 19, VIII, 1938.

产四川东部(城口)、陝西南部(洋县)。

本新种形体頗似細柄假茀蕨，但叶片向頂部漸狹，近漸尖头，基部圓形，几不变闊或略較闊，孢子表面近光滑。

**Phymatopsis hastata** (Thunb.) Kitagawa ex H. Ito, Journ. Jap. Bot. XI (1935) 99. **金鶏脚假茀蕨**

Basionym: *Polypodium hastatum* Thunb. Fl. Jap. (1784) 335.

*Phymatodes hastata* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 73.

*Crypsinus hastata* Cop. Gen. Fil. (1947) 206; Tagawa, Acta Phytotax. et Geobot. XV (1954) 142.

广布于我国长江以南各省，向北达陝西南部，向西南达云南；日本、朝鮮、苏联符拉迪沃斯托克也产之。

Forma **arenaria** (Bak.) Ching, statu nov. **长叶变型**

Basionym: *Polypodium arenarium* Bak. Kew Bull. (1895) 56.

产云南东南部。

Forma **simplex** (Christ) Ching, statu nov. **单叶变型**

Basionym: *Polypodium hastatum* var. *simplex* Christ, Bull. Acad. Géogr. Bot. Mans (1906) 105.

产地同原种。

Forma **dolichopoda** (Diels) Ching, statu nov. **叉叶变型**

Basionym: *Polypodium dolichopodum* Diels in Engl. Bot. Jahrb. XXIX (1900) 205.

Synonym: *Polypodium hastatum* var. *dolichopodum* C. Chr. Acta Horti Gotob. I (1924) 103.

产四川。

Forma **pygmaea** (Maxim.) H. Ito in Honda, Nom. Pl. Jap. (1939) 20, 518. **小叶变型**

Basionym: *Polypodium hastatum* f. *pygmaeum* Maxim. Fl. Asia. Orient. Fragm. (1879) 73.

产我国华南及日本。

Forma **nikkoensis** (Christ) H. Ito, Journ. Jap. Bot. XI (1935) 99. **日光变型**

Basionym: *Polypodium hastatum* var. *nikkoense* Christ ex Matsum. Bot. Mag. Tokyo XXIV (1910) 242.

产日本(日光)。

**Phymatopsis digitata** (Ching) Ching, comb. nov. **掌叶假茀蕨**

Basionym: *Phymatodes digitata* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 77, f. 1.

Synonyms: *Polypodium koi* C. Chr. Ind. Fil. Suppl. III (1934) 151, based on *Phymatodes digitata* Ching.

*Crypsinus digitatus* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

特产广东北部。

**Phymatopsis dactylina** (Christ) Ching, comb. nov. **指叶假茀蕨**

Basionym: *Polypodium dactylinum* Christ, Bull. Soc. Bot. France LII, Mém. 1 (1905) 20.

*Phymatodes dactylina* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 79.

*Crypsinus dactylinus* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

产云南及四川西南部。

为一个突出的种，形体頗似金鸡脚假茀蕨叉叶变种，但叶片下面为亮灰白色，根状茎的鱗片鉆形。

**2. 羽叶系**——Series 2. **Oxylobae**

叶片羽裂或羽状，有时三裂并具三角形或三角状披針形的寬裂片。

Lamina frondis pinnatifida vel pinnata vel interdum triloba, lobis deltoideis vel deltoideo-lanceolatis.

Typus seriei: **Polypodium oxylobum** Wall.

**1. 全緣亚系**——Subseries 1. **Oxylobae** Ching, subser. nov.

叶边全緣。

Lamina frondis margine integerrima

Typus subseriei: **Polypodium oxylobum** Wall.

**Phymatopsis trisecta** (Bak.) Ching, comb. nov. **三出假茀蕨**

Basionym: *Polypodium trisectum* Bak. Kew Bull. (1898) 232.

Synonyms: *Phymatodes trisecta* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 65.

*Crypsinus trisectus* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 194.

产云南、四川。

**Phymatopsis kwangtungensis** (Ching) Ching, comb. nov. **广东假茀蕨**

Basionym: *Phymatodes kwangtungensis* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 66, based on *Polypodium longipes* Ching.

Synonyms: *Polypodium kwangtungense* Ching in C. Chr. Ind. Fil. Suppl. III (1934) 151.

*Crypsinus kwangtungensis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

*Polypodium longipes* Ching, Bull. Fan Mem. Inst. Biol. II (1931) 212, pl. 30, non Wall. 1828, nec Link, 1950.

产广东北部(北江)。

**Phymatopsis oxyloba** (Wall. ex Kunze) Ching, comb. nov. **尖裂假瘤蕨**

Basionym: *Polypodium oxylobum* Wall. List (1929) n. 294, nom. nud. ex Kunze, Linnaea XXIV (1851) 255.

Synonyms: *Phymatodes oxyloba* Presl, Tent. Pterid. (1836) 196, nom. nud.; Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 67.

*Crypsinus oxylobus* Sledge, Bull. Brit. Mus. (Nat. Hist.) Bot. II (1960) 145.

*Polypodium trifidum* Don, Prodr. Fl. Nepal. (1825) 3, non Hoffm. 1790.

*Phymatopsis trifida* J. Sm. Hist. Fil. (1875) 105.

产云南、四川(峨眉山);也分布于越南、緬甸、印度北部、錫金、尼泊尔。

**Phymatopsis suboxyloba** Ching, sp. nov. **滇边假瘤蕨**

Species arcte affinis *Ph. oxylobae* (Wall.) Ching, a qua differt stipite rachique subtus castaneis lucidisque, pinnis lateralibus multo longioribus angustioribusque, ad 15 cm longis, 2 cm latis, anguste lanceolatis, apicem versus sensim caudato-acuminatis.

**Yunnan bor.-occid.:** Taron-Taru Divide, Tangtehwang, T. T. Yü(俞德浚) *19989* (type), on rocks, alt. 1500m, 19, VII, 197.

产云南西北部。

本新种形体頗似尖裂假瘤蕨,但叶柄及叶軸下面为栗棕色,有光泽、側生羽片較长較狭,长达15厘米、寬 2 厘米、狭披針形,頂端为尾状漸尖。

**Phymatopsis pingpienensis** Ching, sp. nov. **屏边假瘤蕨**

Species habitu *Ph. oxylobae* (Wall.) Ching similis, a qua differt statu minore, textura rigide coriacea, in sicco nigrescenti-brunnea, pinnis lateralibus angustioribus, ad 7 cm longis, 1—1.3 cm latis, soris inframedialibus, costa pinnae propioribus et inter se approximatis.

**Yunnan austr.-orient.:** Ping-pien Hsien, Ta-wei Shan, H. T. Tsai (蔡希陶) *62789* (type), on rocks, alt. 1500m, 19, VII, 1934.

特产云南东南部(屛边县、大圍山)。

本新种形体頗似尖裂假瘤蕨,但較小,叶为坚革質,干后暗棕色,側生羽片較小,长达 7 厘米,寬 1—1.3 厘米,孢子囊羣接近羽軸,彼此接近。

**Phymatopsis likiangensis** Ching, sp. nov. **丽江假瘤蕨**

Ex affinitate *Ph. oxylobae* (Wall.) Ching, a qua specie differt statu majore, lamina basi vix cuneatim breveque decurrente, pinnata, pinnis lateralibus 5-jugis, rachi exalata ca. 1 cm longa inter se separatis.

**Yunnan bor.-occid.:** Likiang, Tu-chu, Y. C. Chao (赵裕章) *21426* (type), on rocks under forest, alt. ca. 2400m.

特产云南西北部(丽江县)。

本新种形体近于尖裂假茀蕨，但較高大，叶片基部几不呈楔形下延，羽状，側生羽片 5 对，相距以 1 厘米长的无翅叶軸分开，而不以闊翅相連。

**Phymatopsis albidosquamata** (Bl.) Ching, comb. nov. **白斑假茀蕨**

Basionym: *Polypodium albidosquamatum* Bl. Enum. Pl. Jav. (1828) 132.

Synonym: *Crypsinus albidosquamatus* Cop. Gen. Fil. (1947) 207; Holttum, Flora Mal. II, Ferns Mal. (1954) 195.

产馬来羣島。

2. **缺刻亚系**——Subseries 2. **Ebenipedes** Ching, subser. nov.

叶边在每对側脉之間有缺刻一个。

Lamina frondis margine inter venas laterales leviter et remote incisa.

Typus subser. **Polypodium ebenipes** Hook.

**Phymatopsis hirtella** Ching, sp. nov. **昆明假茀蕨**

Species habitu *Ph. oxylobae* (Wall.) Ching valde similis, a qua differt lamina utrinque modice pubescenti, pinnis angustioribus, 1.2—1.5 cm latis, ad 7 cm longis, margine remote regulariterque incisis.

**Yunnan:** Kunming, Sih Shan, T. N. Liou (刘慎諤) *19908* (type); Hai Lung Tan, leg. R. C. Ching (秦仁昌), under open pine forest, alt. 1920m, 10, VIII, 1953.

产云南昆明(西山、黑龙潭)。

本新种形体略似尖裂假茀蕨，叶片两面疏被柔毛，側生羽片較小，长达 7 厘米，寬 1.2—1.5 厘米，边緣有疏缺刻。

**Phymatopsis nigrovenia** (Christ) Ching, comb. nov. **毛叶假茀蕨**

Basionym: *Polypodium shensiense* var. *nigrovenium* Christ, Bull. Acad. Gèogr. Bot. Mans (1906) 106.

Synonyms: *Polypodium nigrovenium* Ching, Bull. Fan Mem. Inst. Biol. I (1930) 150.

*Phymatodes nigrovenia* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 79.

产四川(峨眉山)、湖北西部(长阳县)。

**Phymatopsis erythrocarpa** (Mett.) Ching, comb. nov. **錫金假茀蕨**

Basionym: *Polypodium erythrocarpum* Mett. ex Kuhn, Linnaea XXXVI (1869) 136.

Synonyms: *Phymatodes erythrocarpa* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 80.

*Goniophlebium erythrocarpum* Bedd. Ferns Brit. Ind. Suppl. (1876) 21, pl. 382; Handb. Ferns Brit. Ind. (1883) 315.

产錫金喜馬拉雅山区。

**Phymatopsis kingpingensis** Ching, sp. nov. **金平假茀蕨**

Ex affinitate *Ph. kwangtungensis* (Ching) Ching, a qua differt paleis rhizomatis atratis, lucidis, anguste lanceolatis, stipite rufo-castaneo, laminae aequilongo, pinnis

majoribus, lateralibus ad 8 cm longis, centrali etiam longiore, margine remote et leviter incisis.

**Yunnan austr.-orient.:** King-ping Hsien, Yunnan Complex Expedition *2472* (type).

特产云南东南部(金平县)。

本新种形体略似广东假瘤蕨,但根状茎的鳞片黑色,有光泽,狭披針形,叶柄栗紅色、长等于叶片,側生羽片較长,长达8厘米,中央1片更长,边緣有疏而浅的缺刻。

**Phymatopsis cruciformis** (Ching) Ching, comb. nov. **十字假瘤蕨**

Basionym: *Polypodium cruciforme* Ching, Sinensia I (1930) 47.

Synonym: *Phymatodes cruciformis* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 69.

产广东北部(龙头山)。

**Phymatopsis albopes** (C. Chr. et Ching) Ching, comb. nov. **灰鳞假瘤蕨**

Basionym: *Polypodium albopes* C. Chr. et Ching, Bull. Dept. Biol. Sunyatsen Univ. No. 6 (1933) 15.

Synonym: *Phymatodes albopes* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 87.

*Phymatodes chinensis* Ching, Bull. Fan Mem. Inst. Biol. X (1940) 180.

*Crypsinus chinensis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 130.

产广东、广西(大瑤山)。

**Phymatopsis yakuinsularis** (Masam.) H. Ito, Journ. Jap. Bot. XI (1935) 100.

Basionym: *Polypodium yakuinsulare* Masam. Journ. Soc. Trop. Agr. II (1930) 35.

Synonyms: *Phymatodes yakuinsularis* Tagawa, Acta Phytotax. et Geobot. XII (1950) 47.

*Crypsinus yakuinsularis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 194; ibidem, XV (1954) 143.

产日本屋久島。

**Phymatopsis connexa** (Ching) Ching, comb. nov. **耿馬假瘤蕨**

Basionym: *Phymatodes connexa* Ching, Bull. Fan Mem. Inst. Biol. New Ser. I (1949) 306.

特产云南西南部(耿馬)。

**Phymatopsis laciniata** (Presl) Ching, comb. nov. **南洋假瘤蕨**

Basionym: *Phymatodes laciniata* Presl, Tent. Pterid. (1836) 197, based on *Polypodium laciniatum* Bl. Enum. Pl. Jav. 131, 1828, non *P. laciniatum* Gmel. 1791.

Synonyms: *Crypsinus laciniatus* Holttum, Ferns Mal. (1954) 198.

*Polypodium macrochasmum* Bak. Journ. Bot. (1880) 216.

*Crypsinus macrochasmus* Cop. Gen. Fil. (1947) 206.

产馬来羣島西部。

**Phymatopsis quasidivaricata** (Hayata) H. Ito, Journ. Jap. Bot. XI (1935) 100. **展羽假瘤蕨**

Basionym: *Polypodium quasidivaricatum* Hayata, Mat. Fl. Form. (1911) 446, based on *Polypodium divaricatum* Hayata, Bot. Mag. Tokyo XXIII (1909) 78, non Fourn. 1872.

Synonyms: *Polypodium morianum* C. Chr. Ind. Fil. Suppl. I (1913) 60, based on *Polypodium divaricatum* Hayata.

*Phymatodes quasidivaricata* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 87.

*Crypsinus quasidivaricatus* Cop. Gen. Fil. (1947) 206; Tagawa, Acta Phytotax. et Geobot. XV (1954) 143.

特产我国台湾。

**Phymatopsis intermedia** (Ching) Ching, comb. nov. **中間假茀蕨**

Basionym: *Phymatodes intermedia* Ching, Bull. Fan Mem. Inst. Biol. X (1940) 181.

Synonym: *Crypsinus intermedia* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

特产云南西北部(丽江县,玉龙雪山)。

**Phymatopsis ebenipes** (Hook.) J. Sm. Hist. Fil. (1875) 108. **黑鱗假茀蕨**

Basionym: *Polypodium ebenipes* Hook. Sp. Fil. V (1863) 88.

Synonyms: *Pleopeltis ebenipes* Bedd. Ferns Brit. Ind. (1866) pl. 178.

*Phymatodes ebenipes* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 86.

产云南西部、西藏南部;也分布于錫金、不丹。

**Phymatopsis subebenipes** Ching, sp. nov. **蒼山假茀蕨**

Ex affinitate *Ph. ebenipedis* (Hook.) J. Sm., a qua differt statu multo minore, planta ad 20 cm alta, paleis rhizomatis nec atratis sed rufo-brunneis, lamina minore, 10—15 cm longa, 7—10 cm lata, ovata, pinnis lateralibus brevioribus, 3—5 cm longis, 1—1.5 cm latis, apice obtusis.

**Yunnan occid.:** Tali, Chiong Shan, T. N. Liou (刘慎諤) *21328* (type), alt. 2300m, 5, XI, 1946.

特产云南大理(蒼山)。

本新种形体略似黑鱗假茀蕨,但远較細小,植株高仅达 20 厘米,根状茎的鱗片为紅棕色,不为黑色,側生羽片长仅 3—5 厘米,寬 1—1.5 厘米,先端鈍圓,故易区别。

**Phymatopsis montana** (Sledge) Ching, comb. nov. **錫兰假茀蕨**

Basionym: *Crypsinus montanus* Sledge, Bull. Brit. Mus. (Nat. Hist.) Bot. II (1960) 145.

产錫兰及印度南部。

**Phymatopsis taeniata** (Sw.) Ching, comb. nov. **假茀蕨**

Basionym: *Polypodium taeniatum* Sw. in Schrad. Journ. Bot. II (1801) 26.

Synonyms: *Phymatodes taeniata* Ching, Bull. Fan Mem. Inst. Biol. Bot. Ser. X (1940) 239.

*Crypsinus taeniatus* Cop. Gen. Fil. (1947) 206.

产馬来羣島。这是本属的模式种。

var. **palmata** (Bl.) Ching, comb. nov. **掌叶变种**

Basionym: *Polypodium palmatum* Bl. Enum. Pl. Jav. (1828) 131.

Synonyms: *Polypodium falcatopinnatum* Hayata, Ic. Pl. Form. IV (1914) 247, f. 172.

*Phymatodes falcatopinnata* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 66.

*Phymatopsis falcatopinnata* H. Ito, Journ. Jap. Bot. XI (1935) 99.

*Crypsinus taeniatus* var. *palmatus* Tagawa, Acta Phytotax. et Geobot. XV (1954) 143.

产我国台湾及馬来羣島。

**Phymatopsis echinospora** (Tagawa) H. Ito, Journ. Jap. Bot. XI (1935) 99.

Basionym: *Phymatodes echinospora* Tagawa, Acta Phytotax. et Geobot. III (1935) 95.

特产我国台湾。

**Phymatopsis triloba** (Houtt.) Ching, comb. nov. **三指假苐蕨**

Basionym: *Polypodium trilobum* Houtt. Hist. Nat. XIV (1783); Pflanzen. Syst. XIII (1786) 166, t. 98, f. 1.

Synonyms: *Phymatodes triloba* Ching, Bull. Fan Mem. Inst. Biol. Bot. Ser. X (1940) 259.

*Crypsinus trilobus* Cop. Gen. Fil. (1947) 206; Holttum, Ferns Mal. (1954) 197.

*Polypodium triphyllum* Jacq. Coll. (1788) 283, t. 22, f. 1.

*Phymatodes triphylla* C. Chr. et Tard.-Blot, Fl. Indo-Chine VII, ii (1941) 470.

*Polypodium incurvatum* Bl. Enum. Pl. Jav. (1828) 126.

产我国海南島;也分布于越南、馬来羣島。

3. **鋸齿亚系**——Subseries 3. **Malacodontes** Ching, subser. nov.

叶片边緣有突尖头的鋸齿。

Lamina frondis margine minute cuspidato-serrata.

Typus suberiei: **Polypodium malacodon** Hook.

**Phymatopsis glaucopsis** (Franch.) Ching, comb. nov. **刺齿假苐蕨**

Basionym: *Polypodium glaucopsis* Franch. Bull. Soc. Bot. France XXXII (1885) 29.

Synonyms: *Polypodium veitchii* var. *glaucopsis* C. Chr. in Hand.-Mazz. Symb. Sin. VI (1929) 44.

*Pleopeltis glaucopsis* Bedd. Handb. Ferns Brit. Ind. Suppl. (1892) 96.

*Phymatodes veitchii* var. *glaucopsis* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 85.

*Crypsinus glaucopsis* Tagawa, Acta Phytotax. et Geobot. XIV (1952) 193.

特产云南西北部。

**Phymatopsis roseomarginata** (Ching) Ching, comb. nov. **紫边假苐蕨**

Basionym: *Phymatodes roseomarginata* Ching, Bull. Fan Mem. Inst. Biol. New Ser. I (1949) 305.

特产云南西北部(丽江县,玉龙雪山)。

**Phymatopsis veitchii** (Bak.) H. Ito. Journ. Jap. Bot. XI (1935) 100. **日本假茀蕨**

Basionym: *Polypodium veitchii* Bak. Gard. Chron. n. s. XIV (1880) 49.

Synonyms: *Phymatodes veitchii* Ching, Contr. Inst. Bot. Nat. Acad. Peiping (1933) 84.

*Crypsinus veitchii* Cop. Gen. Fil. (1947) 206; Tagawa, Acta Phytotax. et Geobot. XV (1954) 143.

*Polypodium shensiense* var. *filipes* Christ, Bull. Herb. Boiss. sér. 2, IV (1904) 618.

*Phymatopsis veitchii* var. *filipes* H. Ito, l.c.

特产日本。

**Phymatopsis shensiensis** (Christ) Ching, comb. nov. **陕西假茀蕨**

Basionym: *Polypodium shensiense* Christ, Nuov. Giorn. Bot. Ital. (1897) 99, t. 3, f. 2.

Synonym: *Phymatodes veitchii* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 84, quoad pl. e Shensi et Shansi.

产陕西(太白山)、山西、四川西北部。

本种植物过去一直誤認为与上种同一,其实大不相同,叶片基部为深心脏形。

This Chinese fern is specifically distinct from the Japanese *Ph. veitchii* (Bak.) H. Ito, from which it differs chiefly in the basal pair of pinnae being cut away in the posterior side of the base, so that the base of lamina appears cordate, while the base of lamina in *Ph. veitchii* is rounded or round-truncate, never cordate.

**Phymatopsis stracheyi** (Ching) Ching, comb. nov. **斜下假茀蕨**

Basionym: *Phymatodes stracheyi* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 83.

Synonym: *Polypodium stewartii* Clarke, Trans. Linn. Soc. ser. 2, Bot. I (1880) 563, non *Pleopeltis stewartii* Bedd. 1868.

产云南、四川、喜馬拉雅山区。

**Phymatopsis malacodon** (Hook.) Ching, comb. nov. **弯弓假茀蕨**

Basionym: *Polypodium malacodon* Hook. Sp. Fil. V (1863) 87.

Synonyms: *Phymatodes malacodon* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 83.

*Polypodium austrosinicum* Christ, Bull. Acad. Gèogr. Bot. Mans (1906) 107, non C. Chr. Ind. Fil. (1905) 512.

*Polypodium albidoglaucum* C. Chr. Ind. Fil. Suppl. I (1913) 58, based on *Polypodium austrosinicum* Christ.

产四川、云南、西藏；也分布于不丹、尼泊尔。

**Phymatopsis stewartii** (Bedd.) Ching, comb. nov. **尾头假莗蕨**

Basionym: *Pleopeltis stewartii* Bedd. Ferns Brit. Ind. (1868) pl. 204.

Synonyms: *Phymatodes stewartii* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 81.

*Polypodium cyrtolobum* J. Sm. ex Clarke, Trans. Linn. Soc. ser. 2, Bot. I (1880) 563, pl. 83.

*Polypodium malacodon* var. *majus* Hook. Sp. Fil. V (1864) 88.

产云南西北部；錫金喜馬拉雅山区也产之。

**Phymatopsis nigropaleacea** Ching, sp. nov. **烏鱗假莗蕨**

Ex affinitate *Ph. stewartii* (Bedd.) Ching, a qua differt statu majore, paleis rhizomatis iis *Ph. stewartii* similibus sed margine densissime albido-ciliatis, lamina oblonga, 17—27 cm longa, pinnis ad 7-jugis, oblique patentibus, apice nec caudatis sed acuminatis, margine nec remote inciso-serratis sed regulariter et creberrime cuspidato-serratis.

**Yunnan occid.:** Salwin-Mekong Divide, Kiang Shui (姜恕) *9036* (type), alt. 3040m, on rocks, 19, IX, 1959; Wei-sih Hsien, C. W. Wang (王启无) *68647*, in rock crevices, alt. 3800m, VIII, 1935. **Szechuan occid.:** Mien-ning Hsien, S. F. Chu (朱水法) *20408*, on rocks under forest, alt. 2800m, 19, IX, 1959.

特产云南西北部、四川西部(綿宁县)。

本新种形体頗似尾头假莗蕨，但远較高大，根状茎的黑漆色鳞片的边緣有极密的灰白色睫毛，叶片长圓形，側生羽片达 7 对，斜展，先端为漸尖头，边緣有突尖的密鋸齿。

**Phymatopsis laipoensis** Ching, sp. nov. **雷波假莗蕨**

Species arcte affinis *Ph. shensiensi* (Christ) Ching, a qua differt statu majore, rhizomate nec glauco sed pallide brunneo, paleis eius atratis, e basi orbiculari peltata ad apicem subulatis, stipite castaneo, crassioreque, pinnis majoribus, ad 5 cm longis, 1—1.2 cm latis.

**Szechuan occid.:** T. T. Tü (俞德浚) *3454* (type).

特产四川西部(雷波县)。

本新种形体近于陝西假莗蕨，但較高大，根状茎不为灰白色，而为淡棕色，被黑色鉆状鳞片，叶柄栗色，較粗壮，側生羽片較大，长达 5 厘米、寬 1—1.2 厘米，故易区別。

**Phymatopsis conjuncta** Ching, sp. nov. **交連假莗蕨**

Ex affinitate *Ph. albopedis* (C. Chr. et Ching) Ching, a qua differt stipite laminae aequilongo vel longiore, pinnis margine remote cuspidato-inciso-serratis, soris majoribus, inframedialibus aut costa propioribus.

**Kweichow:** Specimen no. *51524* (type) ex Herb. Dept. Biol. Sun Yatsen Univ. Canton; Lai-kung Shan, T. Y. Cheo (曹子余) *3794*, on tree trunk, 3, VIII, 1959; An-lung Hsien, S. S. Chang (张志松) *5508*, alt. 1500m, 20, VI, 1960; Van-tsing Shan, Ying-kiang Hsien, H. Y. Hou (侯学煜) 902. **Szechuan:** Omei Shan, T. Y. Chow (周太炎) *489*; Nanchuan, Kingfu Shan, K. F. Li (李国凤) *64513*, *62604*, *61513*, on shaded cliff, alt. 1920 m, 2, X, 1957; Fu-chi Hsien, K. W. Yang (楊光輝) *58859*, on shaded cliff, alt. 2,700 m, 17, VII, 1958; O-pien Hsien, C. T. Kuan (管中天) *6554*, alt. 2250m, Z. C. Cheo (赵子孝); Kanting Hsien, C. P. Hwang (黄治平) *1778*, 13, VIII, 1936; Lai-po Hsien, C. T. Kuan (管中天) *6781*, alt. 2250m; K. L. Cho (曲桂林) *3474*; Tsa-wa-rung, C. W. Wang (王启无) *65286*, on cliff, alt. 2800m, VIII, 1935. **Anwhei austr.:** Hwang Shan, P. C. Tsoong (鍾补求) *3540*. Honan bor.-occid.: Lusih Hsien, Laoching Shan, K. M. Liou

（刘断孟）*5192*。

广布于貴州、湖南、四川、河南、安徽（黄山）、广西、湖北（巴东）、云南。

本新种形体最似灰鱗假茀蕨，但叶柄与叶片等长或稍較长，叶边有突尖的疏鋸齿，孢子囊羣較大，生于中間以下或較接近羽軸，故易区别。本种过去一直誤認为日本假茀蕨，不同点在于形体較高大，羽片基部呈深心脏形，基部1对羽片斜指下方，故也易区别。

**Phymatopsis crenatopinnata** (Clarke) Ching, comb. nov. **紫柄假茀蕨**

Basionym: *Polypodium crenatopinnatum* Clarke, Journ. Linn. Soc. XXV (1888) 99, pl. 42.

Synonyms: *Phymatodes crenatopinnata* Ching, Contr. Inst. Bot. Nat. Acad. Peiping II (1933) 80.

*Polypodium pseudoserratum* Christ, Bull. Herb. Boiss. VI (1898) 871.

*Polypodium connatum* Christ, Bull. Acad. Géogr. Bot. Mans (1907) 141.

**Phymatopsis conmixta** (Ching) Ching, comb. nov. **鈍羽假茀蕨**

Basionym: *Phymatodes conmixta* Ching, Bull. Fan Mem. Inst. Biol. New Ser. I (1949) 307.

产云南西北部。

本种形体頗似前种，但侧生羽片为鈍圓头（有时急尖头），基部1对不为羽裂，故易区别。